

## REMARKS

### Declarations

Unsigned declarations are provided making the changes noted by the Examiner. Appropriately signed and dated copies will be provided as they are received from the inventors.

### Change of Address

Applicants attorney has moved and a change of address is enclosed. Applicant attorneys direct phone line is now 612 915 9635.

### New Claims

The Applicant has canceled existing claims without prejudice and has requested the entry of new claims directed to the same invention.

It has been the Examiner's position that the invention depicted in Fig. 1 is an obvious combination of the teachings of the Japanese '341 patent and the British '166 patent.

The gist of the Examiner's rejection is that the British reference shows the desirability of collecting bubbles and that one of ordinary skill would readily substitute or insert the Japanese wings into the British device. Applicant respectfully disagrees with this conclusion. In Applicant's view the Japanese reference teaches a whirlwind type separator which is designed to separate minute particles of a fluid or a solid from a gas. This separator has a streamline shape member and multiple wings for guidance and an induction pipe. The stated objective of the device is to reduce energy consumption and to improve the efficiency of separation. In Applicant's view this reference is an industrial type air cleaner which is used to clean an air stream for an industrial process. The British '166 reference is designed for insertion in the cooling system of internal

combustion engine as set forth in the next to the last column of the British patent publication. Presumably the reintroduction of gas into the engine reduces the cooling effect of the coolant and the problem confronting the inventor of the British reference is how to augment the "calm zone" described in column 1 which occurs in the conventional radiator.

Applicant's invention relates to a wholly different area of technology where microscopic gas bubbles which are too small to be seen with the naked eye are removed from a relatively slow moving stream of blood which is being circulated outside of the patient to support the circulation of the patient during surgery. Although many people think of blood as a simple fluid, it is in fact a complex organ with many constituent parts including cells and the like. If roughly handled, these cells can disrupt and release a collection of chemicals which give rise to a cascade of coagulation. Neither the Japanese nor the British reference needs to be concerned with the stability of the fluid.

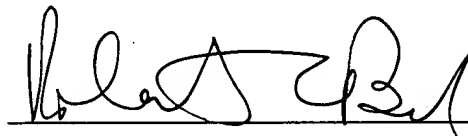
Applicant's system as set forth in the newly provided claims gradually accelerates the flow increasing its linearly velocity and then subsequently increases the radial acceleration on the blood. These accelerations are maintained for a sufficiently long period of time to allow the microscopic bubbles to migrate under the forces generated by the helix. At the conclusion of the acceleration phase the blood is gradually allowed to loose its radial velocity while traversing an outlet which treats the blood gently and permits the micro bubbles to be picked off at the center of the stream. Each of the geometric requirements of the invention is set forth clearly in the newly presented claims.

There should be no doubt that placing blood in either the Japanese or the British device and operating under the conditions anticipated by those

inventors would be extremely disruptive and injurious to the blood, and not perform the functions called for by the claims.

Respectfully Submitted,  
CONVERGENZA  
AKTIENGESELLSCHAFT  
By its attorneys:

Date: 1/15/02

A handwritten signature in black ink, appearing to read 'Robert C. Beck', written over a horizontal line.

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